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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/849,038	05/04/2001	Eric C. Haseltine	530057-189	8458

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EXAMINER

WU, XIAO MIN

ART UNIT

PAPER NUMBER

2674

DATE MAILED: 01/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/849,038

Applicant(s)

HASELTINE ET AL.

Examiner

XIAO M. WU

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/21/2004 has been entered.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 2674

3. Claims 1-3, 5-8, 10-13, 18-21, 25-30, 32, 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Myers et al (US Patent No. 5,909,291) in view of Teng et al. (US Patent No. 6,165,546).

As to claims 1, 12, 18, 25, 28, 30, 32, 35, Myers discloses a visual display system having an improved color gamut, comprising: a display device; a color signal translator; input color data; the color signal translator (or a lookup table) translating the input color data according to properties of a medium to emulated by the display device; the display device receiving and displaying the translated color data. It is noted that Myers does not disclose an optical filter for filtering an output of the display device and the optical filter having a stop region located between wavelengths corresponding to two additive primary colors, wherein the stop region of the filter includes the region of substantially overlap between the spectra of the two additive primary colors. Teng is cited to teach using an optical filter for filtering an output of the display device and the optical filter having a stop region located between wavelengths corresponding to two additive primary colors, wherein the stop region of the filter includes the region of substantially overlap between the spectra of the two additive primary colors. (see Figs. 2 and 3 and col. 3, lines 4-32). It would have been obvious to one of ordinary skill in the art to have modified Myers with the features of the optical filters for filtering the display as taught by Teng because Teng provides an article to enhance the contrast of images from a color display monitor without significantly sacrificing brightness of the image (col. 2, lines 41-44).

As to claims 2, 8, 13, Myers discloses the properties include a color gamut, gamma, and dynamic range of the medium to be emulated (Figs. 2, 14).

As to claim 3, Myers discloses that the filter has at least a first peak gamut centered at approximately either one of red, green, or blue wavelengths (see Fig. 2)>

As to claims 5, 10, Teng discloses that the filter is a dual bandstop filter (see Fig. 2).

As to claims 6, 11, 19, Teng discloses the bandstops provide a first notch centered about 450nm and a second notch centered about 530nm.

As to claims 7, 27, 29, 36, note the discussion of claim 1 above. Teng further discloses that the filter relatively attenuates non-primary colors (e.g. absorb wavelength other than the primary color wavelength, see col. 3, lines 4-9).

As to claim 20, Myers and Teng disclose that the color signal comprises at least one component primary color from the group of red, green and blue.

As to claim 21, Myers and Teng disclose that the color display device comprises a cathode ray tube display device.

As to claim 26, note the discussion of claim 1 above, Myers further disclose emulating the appearance of color film (col. 1, line 18).

4. Claims 4 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Myers et al (US Patent No. 5,909,291) in view of Teng et al. (US Patent No. 6,165,546) as applied to claim 1 above, and further in view of Rahmlow (US Patent No. 5,523,882).

As to claims 4, 9, it is noted that Teng does not disclose that the optical filter is a rugate filter. However, rugate filter is well known in the art such as taught by Rahmlow. It would have been obvious to one of ordinary skill in the art to have modified the optical filter of Teng with the features of the rugate filter as taught by Rahmlow because the rugate filter of Rahmlow has

Art Unit: 2674

an index of refraction versus optical thickness profile that effectively suppresses harmonics of the principle wavelength for which the filter is designed (col. 2, lines 32-35).

5. Claims 14, 16-17, 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Myers et al (US Patent No. 5,909,291) in view of Teng et al. (US Patent No. 6,165,546) and De Leeuw (US patent No. 5,057,912).

As to claims 14, 31, Myers discloses a visual system comprising: a means (15) for altering a digital color signal according to a color gamut to be produced and producing an altering digital color signal. It is noted that Myers does not disclose a single aperture projector and a filter for filtering a projection of light and the filter altering the spectral bandwidths of at least one of the component primaries of the projection. De Leeuw is cited to teach a single aperture projector including a filter (see Figs. 1 and 3). Teng is further cited to teach a filter placed in front of the screen for altering the spectral bandwidths of primary colors whereby the color gamut is produced. It would have been obvious to one of ordinary skill in the art to have modified Myers with the features of the projector and filter as taught by Teng and De Leeuw so that the digital color signal can be reproduced in a projection system and improve the gamut of the color display.

As to claim 16, Teng discloses that the filter is a dual bandstop filter (see Fig. 2).

As to claim 17, Teng discloses the bandstops provide a first notch centered about 450nm and a second notch centered about 530nm.

6. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Myers et al (US Patent No. 5,909,291) in view of Teng et al. (US Patent No. 6,165,546) and De Leeuw (US

Art Unit: 2674

patent No. 5,057,912) as applied to claim 14 above, and further in view of Rahmlow (US Patent No. 5,523,882).

As to claim 15, it is noted that Myers as modified by Teng does not disclose that the optical filter is a rugate filter. However, rugate filter is well known in the art such as taught by Rahmlow. It would have been obvious to one of ordinary skill in the art to have modified the optical filter of Myers as modified with the features of the rugate filter as taught by Rahmlow because the rugate filter of Rahmlow has an index of refraction versus optical thickness profile that effectively suppresses harmonics of the principle wavelength for which the filter is designed (col. 2, lines 32-35).

7. Claims 22-24, 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teng et al. (US Patent No. 6,165,546) in view of Rahmlow (US Patent No. 5,523,882).

As to claims 22, 24, 33-34, Teng discloses a visual display system comprising: an electronic display device having a display; and a filter gamut of the display relative to the display and having bandstops which increase color gamut of the display wherein the bandstops shift the primary colors of the display closer to the spectrum locus. For example, as shown in Fig. 3, Teng shown the color gamut has been increased with a filter placed in front of the CRT, and as shown in Fig. 2, the filter has bandstops which shift the primary colors of the display closer to the spectrum locus.

It is noted that Teng does not disclose that the optical filter is a rugate filter. However, rugate filter is well known in the art such as taught by Rahmlow. It would have been obvious to one of ordinary skill in the art to have modified the optical filter of Teng with the features of the rugate filter as taught by Rahmlow because the rugate filter of Rahmlow has an index of

Art Unit: 2674

refraction versus optical thickness profile that effectively suppresses harmonics of the principle wavelength for which the filter is designed (col. 2, lines 32-35).

As to claim 23, Teng discloses the bandstops provide a first notch centered about 450nm and a second notch centered about 530nm.

Response to Arguments

8. Applicant's arguments filed 10/21/2004 have been fully considered but they are not persuasive.

Applicant argues that goal of the Teng system is to maximize or increase the contrast and not increase the gamut of the display. This argument is not persuasive. Teng clearly teaches that the bandpass filter allows one to expand the color gamut by adjusting the spectral bandwidth of the band pass windows in the respective wavelength (see col. 3, lines 27-30). Applicant also argues that Fig. 2 of Teng shows, for example, a filter having a bandpass centered at a frequency, corresponding to about 480nm, such that signals in the region where there is substantial overlap in the blue and green component primaries are passed unaltered (or none-attenuated). This argument is not persuasive. As shown in Fig. 2, Teng clearly shows that the bandpass filter attenuated the overlapping area (e.g. the frequency region 480-520nm) of two color components by 50% and the primary color region is substantial transmitted. It is believed that the claimed structures are met by the prior art references.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xiao Wu whose telephone number is (703) 305-4721.

Art Unit: 2674

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on (703) 305-4709.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:


(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377

xw

January 5, 2005


XIAO WU
PRIMARY EXAMINER
ART UNIT 2674